Numb. 360.

THE Pennſylvania GAZETTE.

Containing the freſheſt Advices Foreign and Domeſtick.

From October 23. to October 30. 1735.

Of the Uſefulneſs of the MATHEMATICKS.

MATHEMATICKS, originally ſignifies any kind of Diſcipline or Learning, but now it is taken for that Science, which reaches or contemplates whatever is capable of being numbred or meaſured: That Part of the *Mathematicks* which relates to *Numbers* only, is called *Arithmetick*; and that which is concerned about *Meaſure* in general, whether *Length*, *Breadth*, *Motion*, *Force*, &c. is called *Geometry*.

As to the Uſefulneſs of *Arithmetick*, 'tis well known that no Buſineſs, Commerce, Trade or Imployment whatſoever, even from the *Merchant* to the *Shopkeeper*, &c. can be managed and carried on, without the Aſſiſtance of *Numbers*; for by theſe the Trader computes the Value of all Sorts of Goods that he dealeth in, does his Buſineſs with eaſe and certainty, and informs himſelf how Matters ſtand at any Time with reſpect to Men, Money, or Merchandize, to Profit and Loſs, whether he goes forward or backward, grows richer or poorer. Neither is this *Science* only uſeful to the Merchant, but is reckoned the *Primum Mobile* (or firſt Mover) of all mundane Affairs in general, and is uſeful for all Sorts and Degrees of Men, from the higheſt to the loweſt.

As to the Uſefulneſs of *Geometry*, it is as certain, that no curious Art, or Mechanick Work, can either be invented, improved or performed, without its aſſiſting Principles.

'Tis owing to this, that *Aſtronomers* are put into a Way of making their Obſervations, coming at the Knowledge of the Extent of the Heavens, Duration of Time, the Motions, Magnitudes, and Diſtances of the heavenly Bodies, their Situations, Poſitions, Riſings, Settings, Aſpects and Eclipſes; alſo the Meaſure of Seaſons, of Years, and of Ages.

'Tis by the Aſſiſtance of this *Science*, that *Geographers* preſent to our View at once, the Magnitude and Form of the whole Earth, the vaſt extent of the Seas, the Diviſions of Empires, Kingdoms and Provinces.

'Tis by the Help of *Geometry*, the ingenious *Mariner* is inſtructed how to guide a Ship thro' the vaſt Ocean, from one Part of the Earth to another, the neareſt and ſafeſt Way, and in the ſhorteſt Time.

By Help of this *Science* the *Architect* take their juſt Meaſures for the Structure of Buildings, as private Houſes, Churches, Palaces, Ships, Fortifications, *&c.*

By its Help *Engineers* conduct all their Works, take the Situation and Plan of Towns, Forts and Caſtles, meaſure their Diſtances from one another, and carry their Meaſure into Places that are only acceſſible to the Eye.

From hence alſo is deduced that admirable *Art* of drawing *Sun-Dials* on any Plane howſoever ſituate, and for any Part of World, to point out the exact Time of the Day, Sun's Declination, Altitude, Amplitude, Azimuth, and other Aſtronomical Matters.

By *Geometry*, the *Surveyor* is directed how to draw a Map of any Country, to divide his Lands, and to lay down and plot any Piece of Ground, and thereby diſcover the Area in Acres, Rods and Perches. The *Gauger* is inſtructed how to find the Capacities or ſolid Contents of all kinds of Veſſels, in Barrels, Gallons, Buſhels, &c. And the *Meaſurer* is furniſhed with Rules for finding the Areas and Contents of Superficies and Solids, and caſting up all manner of Workmanſhip. All theſe and many more uſeful *Arts*, too many to be enumerated here, wholly depend upon the aforeſaid *Sciences*, viz. *Arithmetick* and *Geometry*.

This *Science* is deſcended from the Infancy of the World, the Inventors of which were the firſt Propagators of human Kind, as *Adam*, *Noah*, *Abraham*, *Moſes*, and divers others.

There has not been any *Science* ſo much eſteemed and honoured as this of the *Mathematicks*, nor with ſo much Induſtry and Vigilance become the Care of great Men, and laboured in by the Potentates of the World, viz. *Emperors*, *Kings*, *Princes*, &c.

Mathematical Demonſtrations, are a Logick of as much or more Uſe, than that commonly learned at Schools, ſerving to a juſt Formation of the Mind, enlarging its Capacity, and ſtrengthening it ſo, as to render the ſame capable of exact Reaſoning, and diſcerning Truth from Falſhood in all Occurrences, even ſubjects not mathematical. For which Reaſon 'tis ſaid, the *Egyptians*, *Perſians*, and *Lacedemonians*, ſeldom elected any new *Kings*, but ſuch as had ſome Knowledge in the *Mathematicks*, imagining thoſe who had not, Men of imperfect Judgments, and unfit to rule and govern.

Though *Plato*'s Cenſure, that thoſe who did not underſtand the 117th *Propoſition of the* 13*th Book of Euclid's Elements*, ought not to be ranked amongſt rational Creatures, was unreaſonable and unjuſt; yet to give a Man the Character of univerſal Learning that is deſtitute of a competent Knowledge in the *Mathematicks*, is no leſs ſo.

The Uſefulneſs of ſome particular Parts of the *Mathematicks* in the common Affairs of human Life, has render'd ſome Knowledge of them very neceſſary to a great Part of Mankind, and very convenient to all the reſt that are any Way converſant beyond the Limits of their own particular Callings.

Thoſe whom Neceſſity has oblig'd to get their Bread by manual Induſtry, where ſome Degree of Art is required to go along with it, and who have had ſome Inſight into theſe Studies, have very often found Advantages from them ſufficient to reward the Pains they were at in acquiring them. And whatever may have been imputed to ſome other Studies, under the Notion of Inſignificancy and Loſs of Time, yet theſe, I believe, never cauſed Repentance in any, except it was for their Remiſſneſs in the Proſecution of them.

Philoſophers do generally affirm, that humane Knowledge to be moſt excellent, which is converſant amongſt the moſt excellent Things. What Science then can there be, more noble, more excellent, more uſeful for Men, more admirably high and demonſtrative, than this of the *Mathematicks*.

I shall conclude with what *Plato* says, Lib. 7. of his Republick, with regard to the Excellence and Usefulness of Geometry, being to this Purpose.

'*Dear Friend*, You see then that *Mathematicks* are necessary, because by the exactness of the Method, we get a 'Habit of using our Minds to the best Advantage: And it 'is remarkable, that all Men being capable by Nature to 'Reason and understand the Sciences; the less Acute, by 'studying this, tho' useless to them in every other Respect, 'will gain this Advantage, that their Minds will be improved in reasoning aright; for no Study employs it more, nor 'makes it susceptible of Attention so much; and these who 'we find have a Mind worth cultivating, ought to apply 'themselves to this Study.

LONDON, *July* 16.

It is yet uncertain what Turn the Affairs of *Europe* will take; the Scales seem to hang exactly even, and a very small additional Weight thrown in either, will probably determine the Point, that is, will either produce a firm and lasting Peace to *Europe*, or plunge it into a general War.

However, I cannot think but things begin to look with a more favourable Aspect than they did some time ago: The *French*, notwithstanding all their Artifices to conceal it, seem to have abated something of that Impetuosity and Fire which they set out with at the Commencement of the War; they act with more Caution and Reserve; and the Summer is now wearing away, without any thing being done, either in *Italy* or on the *Rhine*; the *Allies* are disconcerted among themselves; the Arrival of the *Spanish* Forces under the Duke *de Montemar*, has been so far from forwarding the Designs of those confederate Princes, that it has thrown some Obstacles in their Way, which it will be found difficult to surmount: It has in particular check'd the Ardour of the King of *Sardinia*, who very evidently looks with Jealousy on the *Spaniards*, as in all Probability the *Spaniards* do with Contempt upon him; the necessary Consequences of which must be at least, Misunderstandings, Divisions, Delays, Oppositions to one another's Counsels and Purposes, if it does not end at last, which is not at all unlikely, in an open Rupture between them.

And we have already seen one plain Effect of this Jealousy and Distrust, that the King of *Sardinia* entertains of *Spain*, and that is the deferring the Siege of *Mantua*, after so much Preparation, and so well provided as the *Allies* were to undertake it; for such Delay, in a Matter of such Concernment, upon the Success of which the Fate of *Italy* in a great Measure depends, can be imputed to no other Cause; for what else could have prevented their Design? The Retreat of Count *Konigsegg*, left them a fair and open Field to act in, without Danger of Interruption or Disturbance; they had no Enemy without, and but a small Garrison within, to encounter with; and the Importance of the Place is such, that if there had been a perfect Union and Harmony among themselves, it would not have admitted a Moment's Doubt, but that they would have made themselves Masters of it, with all imaginable Dispatch and Expedition.

For while the *Imperialists* are in Possession of *Mantua*, the rest of *Italy* may be recovered as soon as it was lost; whoever keeps the Field is Master of the Country; there are no Places of Defence, no strong Holds, no fortify'd Towns, I mean none, besides *Mantua*, that can stop the Progress of a victorious Army to any considerable Purpose; if therefore Count *Konigsegg* should, with the Troops that are now on their March to reinforce him, return back, and be able to bring the *Allies* to an Engagement, upon no very disadvantageous Terms to himself, the Success of that Battle would immediately restore the Emperor's Affairs in *Italy*; for the Army of the *Allies* being once broke, must in all Probability be entirely destroy'd or dispers'd, and never able to make Head again.

For without doubt, the overbearing Behaviour of the *Spaniards*, and their Design, which manifests itself visibly enough now, to give to *Don Carlos* the Emperor's Dominions in *Italy*, has by this Time, taught the King of *Sardinia* his Error, and he will not be very fond of impoverishing his Country, and run the Hazard of ruining himself, to support a Cause, which another is to receive all the Benefit from; for in the Situation which that Prince is at present, he resembles a little the Beasts that were a hunting with the Lion, he may divert himself with the Chase, but he will be allow'd no Share of the Prey.

One Defeat therefore of the Allied Forces may terminate the War in *Italy* in favour of the Emperor, which is not yet impossible to happen, from the fertile Brain and active Spirit of Count *Konigsegg*, when fresh Forces join him; and if that should be the Case, the King of *Sardinia* will understand his own Interest too well, to give Passage through his Country to another Army from *France*, if that Crown should be in a Condition to send another; and it is besides very likely too, that the Way may be then block'd up, both to the *French* and *Spaniards* by Sea, by the *united Fleets* of *England* and *Holland*.

And indeed by all the Accounts that have lately come over, the *Dutch* seem at last to be brought into such a Temper and Disposition, by the powerful Negociations, and the great Weight and Influence of the *British Minister* at the *Hague*, that there is no reason to doubt, but that as soon as the Nature of their Deliberations, and the Forms of their Government will give them leave, they will enter into the most effectual Measures, with the Crown of *Great-Britain*, to restore the Tranquility of *Europe*; and laying aside, or at least suspending their Domestick Animosities and Divisions (a Weed natural to the Soil of all free Governments) they will join heartily in the common Cause, and rouze up the ancient Spirit of the

the Republick, which under the Direction of the illuſtrious Princes of the Houſe of *Orange*, makes ſo great a Figure in Hiſtory.

What better or wiſer Part could *Great-Britain* then take, than to make uſe of her utmoſt Efforts and Endeavours, to prevail with the *Dutch* to act in concert with her, in the preſent Conjuncture, and to concur in Meaſures ſo much for the Honour and Intereſt of Nations? This was certainly the only Method to be purſued, and what was incumbent on us to do, before we declared ourſelves, or enter'd into the War; and if it ſhould ſucceed, as there is now reaſon to hope, it is very well worth all the Time that has been employ'd about it.

For *Great-Britain* and *Holland* united in one common Band of Friendſhip and Alliance, reciprocally aſſiſting and aſſiſted by each other, can give Law to the moſt powerful of their Neighbours; but if, on the contrary, there happens to be a Jealouſy, Diſagreement, or Coldneſs between them; if they do not act with that mutual Truſt and Confidence in one another, which is almoſt eſſentially neceſſary to the very Being of their reſpective States, *Holland* will ſoon lie at the Mercy of the firſt *Invader*, and *England* loſe ſo much of its Weight in the Balance of *Europe*, as the Addition of the other thrown into the *Scale*, amounts to.

And I believe there is no doubt to be made but that if *Holland* had done her Part, and would have ſeconded the Endeavours of *England*, and have purſued the ſame vigorous Meaſures as we were prepared to have done; if ſhe would have joined cordially with us, the Union of *France* and *Spain* would not have appear'd ſo formidable, nor the Terror of their Arms ſo great, as to have given any extraordinary Uneaſineſs or Apprehenſion to any other Power in *Europe*; we ſhould in all Probability have been able to put a Stop to that Torrent of Succeſs, as ſome People, to ſerve *certain Purpoſes*, affect to call it, with which they have been fluſh'd; and have oblig'd them to confine themſelves within the Extent of their own Dominions.

If, therefore, the Progreſs that the Arms of *France* and *Spain* have made, is likely to turn the Ballance too much on their Side, or to become dangerous to the Liberties of *Europe*, who ought to be accountable for it? Not ſurely the *Britiſh* M------y, who did every thing that lay in them to prevent it, conſiſtent with the Intereſt of *England*, and without ſubjecting their own Nation to take the whole Burthen of the War upon themſelves: If the *Dutch*, who are ſo much more nearly concerned to give a Check to the exorbitant Power of *France*, and who have formerly ſuffered ſo much from it, did not think fit to enter into any Meaſures for that End, or to advance one Stiver, or raiſe one Man. in order to contribute thereto; what would have been the Clamour, if we ſhould have precipitated ourſelves into this War alone, unſupported and unaſſiſted by them? Should not we have been call'd the Tools and Dupes of the *Dutch*, exhauſting our Treaſure and ſpilling our Blood, in ſo profuſe a Manner, in a Cauſe which ſo immediately affected them, and ſo remotely ourſelves, while they all the time would have enjoy'd all the Fruits and Advantages of Peace; and have reap'd the Benefit of ſome of the moſt beneficial Branches of our Commerce, by remaining Neuter, which we ſhould have loſt, by engaging in what may more properly be called their Quarrel, than our own?

With what Colour of Juſtice and Reaſon then can the *Adminiſtration* be charged with Negligence, Remiſſneſs, or Want of a due Regard to the true Intereſt of their Country in not declaring War again *France* and *Spain*, before we have fortified ourſelves by an Alliance with the *States-General*? To reſtrain thoſe two Powers within their due Bounds, and to prevent their over-running the Emperor, and deſtroying the Ballance of Power on the Continent, is the Cauſe and Concern of all *Chriſtendom*; but not particularly ours: The Storm is at a Diſtance, and hardly to be perceiv'd by us; but it hangs directly over the Heads of the reſt, and it may burſt and ſpend all its Fury upon them, without ever hurting us: Ought we then to ſtand ſingle in the Breach, or to take upon ourſelves the greateſt Share of the War who have the leaſt Concern in the Conſequences of it? *Italy* may be canton'd out among the Allies; *Don Carlos* may be ſupported and confirm'd in the Poſſeſſion of *Naples* and *Sicily*; and *Holland* may become a Province to *France*; and yet the Dominions of *Great-Britain* may remain ſecure and untouched, and the Crown ſit ſafe and eaſy on the Heads of his Majeſty and his Succeſſors. We ſhall always be able to defend ourſelves, as we did before the *Seven Provinces* had ſhook off the *Spaniſh* Yoke, and erected themſelves, under the Aſſiſtance and Protection of *England*, into a free State, when the Houſe of *Auſtria* was much more potent and formidable than the Houſe of *Bourbon* is now.

Not that I would in the leaſt endeavour to inſinuate, that ſuch an Acceſſion of Power to the Houſe of *Bourbon* would be of no Conſequence to us; or that we ought not to take all reaſonable Meaſures to defeat the Ambitious Projects which they may have in View: Let thoſe, whoſe more immediate Intereſt it is, but exert a proper Spirit upon this Occaſion, and *Great-Britain* will ſoon ſhew, that ſhe wants neither Reſolution nor Power to riſe up in the Defence of the Liberties of *Europe*, which ſhe has already given an illuſtrious Example of, and convinced the World, that her Allies may depend upon, and be always ſafe under her Protection, againſt the Menaces and Inſults of any Power, how great and formidable ſoever.

But indeed to have made ourſelves a Party in the preſent War, and, in the mean time, have

have left *Holland* in the quiet Enjoyment of her Neutrality, would have been such a great Solecism in Politicks, as could never have entered into the Head of any reasonable Man, whatever Party he may be of.

Accordingly we find the Conduct that the M------y has observed on this Occasion, has been in exact Conformity to the Addresses of both Houses of Parliament, who, on the Opening of the Sessions in *January* 1734, deliver it as their Opinion, 'That the Crown of *Great-Britain* ought to come 'to no Determination, till the Result of the Councils of 'other Powers in the same Situation with us, is known, '*particularly the States-General of the united Provinces*, and to 'concert with them such Measures as shall be thought 'most adviseable for the common Safety, and for restoring 'the Peace of *Europe*.'

And this appears to have been not only the Sense of the Majority, but even of those too, who give the greatest Opposition to the Administration upon all other Occasions. However they may differ in other Points, the Gentlemen on both Sides were unanimous in this. And in all the Debates upon the Subject of the present War, in which the Interest of *England*, and the Conduct of the M------y have been very sufficiently and thoroughly canvassed, it was generally understood and agreed by all Parties, to be a very right Measure for *England* to keep out of the War, till the *Dutch* can be prevailed upon to come into it.

Aug. 26. By the Preparations Prince *Eugene* is making upon the Rhine, it seems beyond Question, that his Highness purposes to cross that River, and 'tis generally believed, that he will lay his Bridges at *Manheim*, and pass over directly upon the Enemy, who have abandoned the Neighbourhood of *Mentz*, and are retired behind their Lines in the *Spirebach*, which they are fortifying in a great hurry and have almost compleated. His Highness is removed with the Imperial Army from *Bruschal* to *Heidleberg*, where the *Russians* were waiting to join him, and has detached Prince *George* of *Hesse Cassel* with a large Body of Men, and 18 Pieces of Ordinance, towards *Mentz*; at half a League from which Place, a Bridge is building over the *Rhine*, and 'twas currently reported, that 40,000 Men would pass there.

The Harvest has failed this Year intirely in the Ecclesiastical State; and his Holiness the Pope has ordered large Quantities of Corn to be bought up in foreign Countries, to prevent the Consequences of a Famine in his own Dominions.

Aug. 28. A Party of Russians advancing to take a View of *Philipsburg*, were surprized and made Prisoners, and being conducted to Marshal Coigny, he sent four of them directly to Versailles, for the Court to have a View of them.

'Tis assur'd that it is entirely owing to his Majesty's prudent Conduct and good Offices, that the Elector of Bavaria is come over to the Emperor.

Several very great Wagers have been laid, that Prince Eugene passes the Rhine, and gives the French Battle, if they do not decamp before the 10th of *September*; For it's presum'd all the Russians have joined him some Days ago.

New-York, Octo. 27. On Thursday last arrived here a Sloop from Madeira, and on Saturday last another from the same Island; the first came out the last of Aug. and the last the 16th of Sept. N. S. or thereabouts. By the first we have Advice, that a Ship from London, and another from Lisbon arrived there two Days before, and brought News, that we are soon like to have a Peace; the Dutch having come into all the Measures of the King of Great Britain, who only waited a Conference with the Kings of Sweden and Prussia, before his Return; notwithstanding which, Admiral Stewart was design'd up the Streights with 18 seventy Gun Ships; that Admiral Norris is still at Lisbon; that the Spanish Flota dare not venture out of Cadiz; that Don Carlos was not crowned at Sicily nor as yet at Naples; that we have 12 Sail of 50 Gun Ships, cruising in the Chops of the Channel Westward. By the last Sloop, it is wrote, all was quiet on the Frontiers of Portugal, except the Form of Preparations; that it's thought this Winter will produce a Pacificarion; otherwise that Great Britain and Holland must engage in the War, tho' it's said (by a Vessel from Amsterdam) that the Dutch will not unless they are forced; that 'tis believed Admiral Norris will either return Home with the Squadron under his Command, or send some of the Capital Ships. If this News be true, there is some Hopes of a Peace.

Custom-House, New-York, *Octo.* 27. *Entred in.*

G. Tucker and W. Mucker from Bermuda, Judkin from St. Thomas, Hunt from Antigua, Thomas from Jamaica, Misnard from Madeira.

Entered out. Good for Jamaica, Leacraft for Bermuda, Powle for Coracoa, Lush for Dublin.

Cleared. Stannay to North-Carolina, Fox to New-Providence.

Custom-House, Philadelphia, *Entred in.*

Brigt. Elizabeth, John Shearer, from Boston.
Sloop Rebecca, Nathaniel Hilton, from Turks-Island.
------ Martha and Mary, Sam. Cooper, fr. St. Christopher.
------ St. Andrew, Israel Cornuck, from Ditto.
Brigt. St. Andrew, John Fairly, from London-derry.
Sloop little Mary, Jacob Norton, from Rh-Island.
Ship Priscilla, John Hutcheson, from Barbadoes.
Brigt. Lancashire Witch, Jona. Birchal from Ditto.
------ Wm. and Margaret, George Davis, from Cadiz.
Ship Dorset, Arthur Ellis, from Lisbon.

Entred out.

Brigt. Olive Branch, John Pindar, for Antigua.
Ship Prince Eugene, Edward Wright, for London.
Sloop Droitwych, Gabriel Wayne, for No-Carolina.

Cleared.

Sloop Speedwell, Richard Painter, to Virginia.
Scooner Judith and Rebecca, J. Clark, to N-Castle on Delaware.
Ship Tryall, Wm. Greive, to Dublin.
Brigt. Britannia, John Bond, to Cork.

Advertisements.

Just published,

A *Defence of the Rev. Mr.* Hemphill's *Observations, or, an Answer to the Vindication of the Rev Commissien.*

1 Tim. i. 4. and iv. 7. *Neither give heed to Fables, and endless Genealogies, which minister Questions, rather than godly Edifying, which is in Faith. ------ But refuse profane and old Wives Fables, and exercise thy self unto Godliness.*

Equidem, ut vere quod res est scribam, prorsus decrevi fugere omnem Conventum Episcoporum: nulli.us enim Concilii bonum exitum unquam vidi; Concilia enim non minuunt mala, sed augent potius. *Augustine.*

I never knew any Good to come from the Meetings of Priests. Tillotson.

Tit. i. 13. *This Witness is* true: *Wherefore rebuke them* sharply, *that they may be found in the Faith.*

Printed and Sold by the Printer hereof. *Price* 9 *d.*

To be SOLD,

VERY *good* Sack *at* 6 s. *per Gallon.* *Inquire of the Printer hereof.*

ALL *Persons indebted to the Estate of* Humphry Murry *late of* Philadelphia *deceas'd, are desired to come and pay their respective Debts to the Executors* William Allen *and* Edward Shippen; *and such as have any Demands on the said Estate are desired to bring in their Accounts.*

There is to be sold by the said Executors, two Houses and Lots, at the lower End of Front Street near the Draw-Bridge, where the Widow Crap *now dwells. A Plantation at* Neshaminy, *where* Moses Marshal *now lives, containing* 150 *Acres.* 500 *Acres of Land in the Township of* Limerick, *in* Pennsylvania. 625 *Acres of Land on a Branch of* Delaware, *called* Loakoling, *being Part of the Letting Purchase No.* 57, *in the Township of* Amwel, *in* Hunterdon *County, West* New-Jersey. *And* 1420 *Acres near* Whipany *on both Sides* Rohaway River, *in the County and Province aforesaid. Also a new Still containing* 60 *Gallons, with a Worm and Tub.*

READY MONEY *for old* RAGS *may be had of the Printer hereof.*

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